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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,884	04/17/2002	Yvette Lienart	USB 98 BC CNR PHY/cdm-kb	8604
466	7590	12/28/2005	EXAMINER	
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			MCINTOSH III, TRAVISS C	
			ART UNIT	PAPER NUMBER
			1623	

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/018,884

Applicant(s)

LIENART ET AL.

Examiner

Traviss C. McIntosh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The Amendment filed September 14, 2005 has been received, entered into the record, and carefully considered. The following information provided in the amendment affects the instant application by:

Claims 30-33 have been amended.

Remarks drawn to rejections of Office Action mailed March 14, 2005 include:

102(b) rejections: which have been maintained for reasons of record.

An action on the merits of claims 27-33 is contained herein below. The text of those sections of Title 35, US Code which are not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 33 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim is missing that which the method is intended to perform. A claim drawn to a "method, comprising applying to said plants a..." is indefinite wherein the claim is silent to what the method is. Applicants should include in the claim what the method is actually intended to do.

Claim Rejections - 35 USC § 102/103

The rejection of claims 27-33 under 35 U.S.C. 102(b) as being anticipated by Adachi et al. (US Patent 5,588,254), is maintained for reasons of record.

Claim 27 is drawn to a phytosanitary method for protecting plants against pathogens or predators and/or facilitating the adaptation of plants to raised ozone levels, comprising applying to the plant a composition comprising a 1,3 β -D-glucanase amplifying effective amount of oligo 1,4 β -D-mannuronans. Claim 28 provides that the oligo 1,4 β -D-mannuronans have a DP of less than 30, and claim 29 provides the DP is between 2 and 15. Claim 30 is drawn to a method of controlling abscission, controlling growth or maturation of a pistil or anthers, controlling organization of cell walls during expansion of tissues and/or reinforcing plant cell walls and adapting them to environmental stimuli, comprising applying to the plant a 1,3 β -D-glucanase, 1,4 β -D-glucanase, or xyloglucan endotransglycolase amplifying effective amount of an oligo 1,4- β -D-mannuronan. Claim 31 provides that the oligo 1,4 β -D-mannuronans have a DP of less than 30 and claim 32 provides the DP is between 2 and 15. Claim 33 is drawn to a method comprising applying to a plant a xyloglucan endotransglycolase amplifying effective amount of a 1,4- β -D-mannuronan having a DP of 4.

Adachi et al. disclose alginic acid oligosaccharides which when hydrolyzed produce an oligosaccharide comprising 2-20 molecules of guluronic acid only (a DP of 2-20), 2-20 molecules of mannuronic acid only (a DP of 2-20), or 2-20 molecules total of the combination of guluronic acid and mannuronic acid (column 2, lines 33-45). The hydrolyzed oligosaccharides of Adachi et al. are taught to be effective as growth accelerators for plants (column 1, lines 8-15). Adachi et al. hydrolyze the alginic acid oligosaccharide in the same manner as applicants, using

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an enzyme such as alginic acid lyase, and disclose that oligosaccharides with a low DP are produced (having a DP of 2-20). Since the Office does not have the facilities for preparing the claimed materials and comparing them with prior art inventions, the burden is on Applicant to show a novel or unobvious difference between the claimed method using the claimed product and the product of the prior art. See **In re Best**, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and **In re Fitzgerald et al.**, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). Adachi et al. disclose a method of applying the same compounds to the same population in the same amounts, and thus inherently disclose the methods as instantly claimed.

Applicants argue that Adachi et al. teach that the alginic acid oligosaccharide used for treating plants is a composition comprising guluronic acid only, or mannuronic acid only having a DP of 2-20, or is composed of a combination of the guluronic acid and the mannuronic acid. The examiner would like to note that applicants do not use closed claim language, and as such, anything else can be included in the compositions. Applicants also argue that the examples of Adachi et al. are silent to the actual composition of the oligosaccharide used in their examples. However, as set forth supra, since the Office does not have the facilities for preparing the claimed materials and comparing them with prior art inventions, the burden is on Applicant to show a novel or unobvious difference between the claimed method using the claimed product and the product of the prior art. See **In re Best**, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and **In re Fitzgerald et al.**, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). It is noted that applicants stated on page 6 of their response that "Adachi et al. teach that the alginic acid oligosaccharide used for treating plants is a composition comprising guluronic acid only or mannuronic acid only having a DP of 2 to 20, or is composed of a combination of the guluronic

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acid and mannuronic acid”, thus, applicants understand that compositions comprising mannuronic acid having a DP of 2-20 were administered to plants. Applicants then state that Adachi et al. never performed a purification procedure and analysis of the composition product obtained and thus, the composition must have been a mixture of oligomers. The examiner would like to note that applicants claim language is open, and the composition can contain anything else in addition to the mannuronic acid oligomers. Applicant’s discovery of differing effects of a prior art method does not give the discoverer a right to exclude others from practicing the prior arts method of applying alginic acid decomposition products (i.e., oligo 1,4 β -D-mannuronans having a DP of 2-20) to plants, as the prior arts method would have inherently performed the method as instantly claimed. See Ex Parte Novitski, 26 USPQ 2d (BNA) 1389. Applicants state that Adachi et al. do not inherently teach the claimed methods as claimed. The examiner respectfully disagrees. As set forth supra, Adachi et al. is seen to administer compositions which meet the limitations of the claims of the instant invention to plants in amounts ranging from 2.5% to 0.000025% (see table 1), which is seen to be correlative to the nanomolar concentrations used in the instant application. Moreover, Adachi et al. teach their compositions can be used to increase stalk-leaf length and root length (table 1), increase stem length (table 2), and increase weight (table 4) to name a few. As such, even if applicant argues that Adachi et al. do not inherently disclose the methods as instantly claimed, this is seen to read on methods of protecting plants from predators for example, as certain predators which eat plant’s leaves from the ground (giraffes for example) would not be able reach the leaves on a plant whose stalk length was increased, and thus the plants would be considered to be protected from predators.

The rejection of claims 27-33 under 35 U.S.C. 102(b) as being anticipated Kaisha (JP 4335839) is maintained for reasons of record.

Kaisha disclose a method of culturing a plant tissue or cell comprising adding an alginic acid oligosaccharide which comprises oligosaccharides with a degree of polymerization of 2-20 and containing guluronic acid and/or mannuronic acid to a culture medium (abstract) which improves production efficiency of artificial seeds or seedlings of farm gardening crops.

Applicants argue that Kaisha et al.'s methods are the result of an effect which is not linked to the 1,3 or 1,4-glucanases or the endotransglycolase and that the claimed methods are carried out by applying the oligosaccharides to the whole plant, not to the plant tissue or cells which have been placed in culture media as in Kaisha. However, it is noted that the instant claims are silent to how much of the plant is to be treated, they only require "applying to said plants", and Kaisha et al. apply their compositions to seeds (which are plants) and to "plant tissue". Applicant's discovery of differing effects of a prior art method does not give the discoverer a right to exclude others from practicing the prior arts method of applying alginic acid decomposition products (i.e., oligo 1,4 β -D-mannuronans having a DP of 2-20) to plants, as the prior arts method would have inherently performed the method as instantly claimed. See Ex Parte Novitski, 26 USPQ 2d (BNA) 1389. It is noted that claims are unpatentable where the prior art process of applying the chemical is the same, notwithstanding applicant's different purpose for application of the compound. See In re Kirby, 40 USPQ 368.

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The prior art teaches to apply the same compounds to the same populations in the same amounts, and thus the prior art's methods would be expected to produce the same results as those instantly claimed.

The rejection of claims 27-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Shigematsu et al. (US Patent 4,226,855) is maintained for reasons of record.

Shigematsu et al. disclose methods of protecting plants from viral disease by applying depolymerized alginic acid to plants (see abstract and preparation example 2, for example). Depolymerized alginic acid is known to comprise oligomers of 1,4 β -D-mannuronan having various DP. Since the Office does not have the facilities for preparing the claimed materials and comparing them with prior art inventions, the burden is on Applicant to show a novel or unobvious difference between the claimed method using the claimed product and the product of the prior art. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *In re Fitzgerald et al.*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). Shigematsu et al. is seen to administer the same compound to the same population to achieve the same result, and thus anticipates the claims of the instant application.

Applicants argue that the compositions in Shigematsu et al., together with their polymerization degrees, are not mentioned in the document, thus it cannot be deduced that the agents used in the prior art are the same as those claimed in the instant application. However, as set forth supra, the Office does not have the facilities for preparing the claimed materials and comparing them with prior art inventions, as such, the burden is on Applicant to show a novel or unobvious difference between the claimed method using the claimed product and the product of

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the prior art. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *In re Fitzgerald et al.*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). Moreover, applicants argue that the preferred alginates of Shigematsu have a viscosity of at least 3 cp and the oligosaccharides of the instant invention has a viscosity of water, i.e. 1. It is noted that the viscosity of the claimed oligosaccharides is not in the claims, as such, applicants are arguing limitations which are not being claimed. Moreover, it is noted that the art is not limited to its preferred embodiments, but rather is taken for what it teaches as a whole. Applicants also argue that the instant applications unexpected results as taken from the fact that oligo's with a DP of 4 have an amplifying effect which is superior to those with a DP of 8 further separates the instant application from the art. However, it is noted that unexpected results do not overcome 102 rejections based on anticipation, but rather unexpected results could possibly overcome obviousness-type rejections, of which there are none pending in the instant application. Moreover, the art teaches using oligosaccharides with a DP from 2-20, which includes those having a DP of 4 as 4 is in the art's range of 2-20 (see Adachi for example).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Traviss C. McIntosh whose telephone number is 571-272-0657.

The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Traviss C. McIntosh III
March 2, 2005



James O. Wilson
Supervisory Patent Examiner
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